

KARAPATA, A.P.; SHUMAKOV, A.G. (Krivoy Rog)

Case of toxic pulmonary edema following the administration of
bee venom in chronic nephritis. Klin.med. 39 no.1:142-144 Ja
'61. (MIRA 14:1)

Krivoy Rog Oblast' Specialized Clinic
1. Iz Krivorozhskoy oblastnoy spetsializirovannoy klinicheskoy
bol'nitsy (glavnnyy vrach A.G. Shumakov).
(PULMONARY EDEMA) (VENOM) (KIDNEYS--DISEASES)

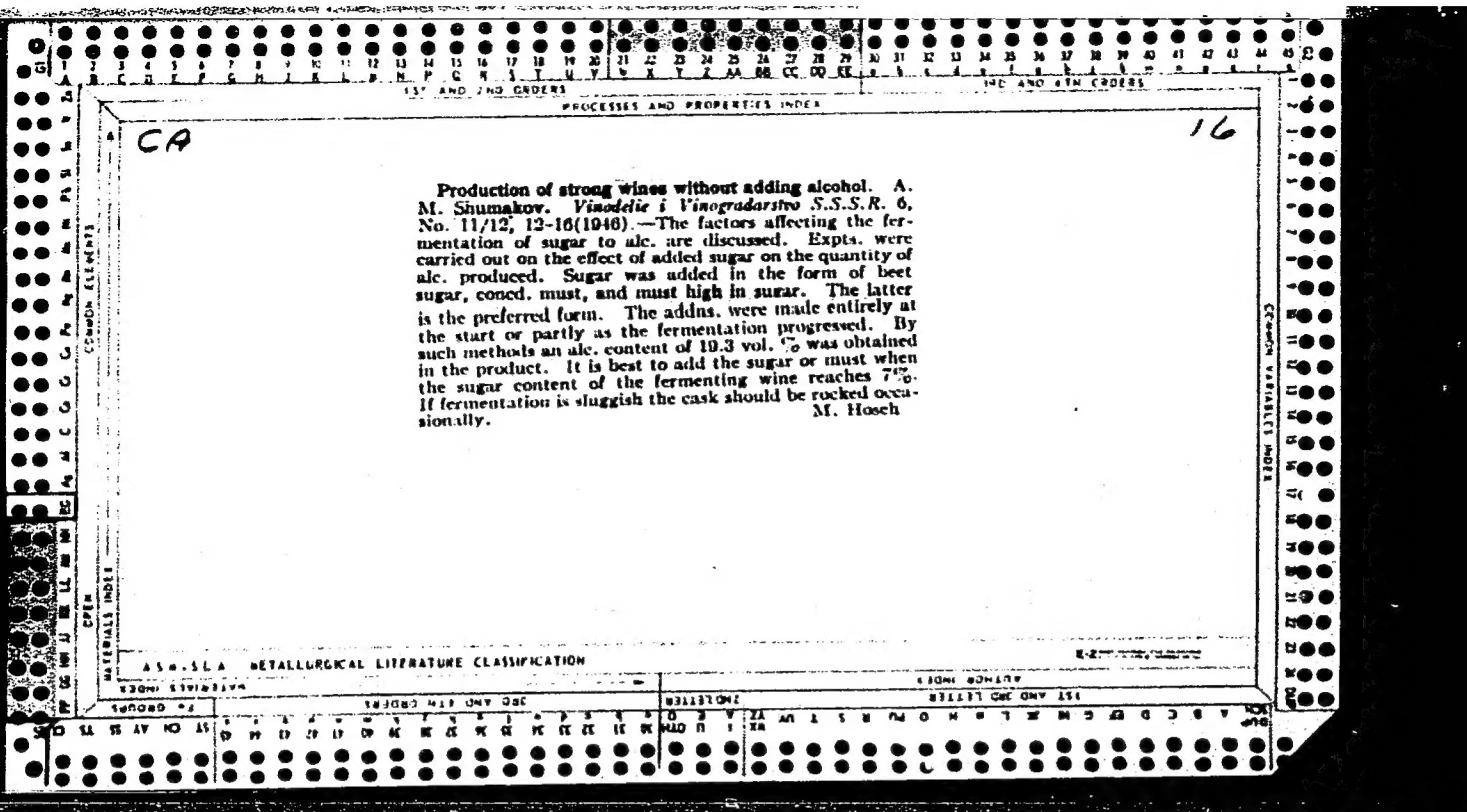
(lit:
clinical
hospital)

wmh

SHUL'KIN, A.S., kand. med. nauk

Final diagnosis of pneumoconiosis. Vest. rent. i rad. 40
no.4:52-56 Jl-Ag '65. (MIRA 18:9)

I. Krivorozhskiy institut gigiyeny truda i professional'nykh
zabolevaniy.



16

CA

Yeast after vigorous fermentation. A. M. Shumakov.
Vinodolie i Vinogradarstvo N.N.S.R. S., No. 10, 7 9 (1948).
—Study to det. the cause of differences in viability behavior of yeast races after vigorous fermentation (dry wine) showed that the high sugar content of the juice fermented is a determining factor, as well as temp. and acidity of the wine resulting. Cells die at the higher sugar levels rather than autolyze. Glycogen and other products of cell metabolism accumulate and exert a toxic action. Rate of recovery of yeast cells increases directly with aging of wines in the interval 0.5-1.6 years. H. O.

SHUMAKOV, A. V.

Mbr., Ukr. Sci. Exptl. Inst. Viticulture im. Tairov, Odessa, -1948-. "Yeast Microflora
of the Grane Berry," Mikrobiol., 17, No. 6, 1942.

Shumakov, A.M.

Sulfitization of wine in small doses. A. M. Shumakov,
Vinodelie i Vinogradarstvo S.S.R., 10, No. 1, 44 (1950);
cf. preceding abstr.—The amt. of SO₂ added to grape must
before the alc. fermentation depends on the acidity, temp.,
and the amt. of the specific yeasts present in the must.
To obtain good products 50–100 mg. SO₂/l. of must, added
before the fermentation, followed by supplementing with SO₂
during the fermentation, are required. M. A. Gerasimov.
Ibid. 44–5.—When the main purpose is a maximal depre-
ssion of the growth of wild microorganisms in the must be-
fore the yeast addn. a large dose of SO₂, added all at once
before the fermentation, is recommended. When both
depression of the microorganisms and acidity of the product
are considered SO₂ is best given in small doses. As a result
of long-time experience the following doses of SO₂ added to
must at different temps. gave best-quality products: at
15°–20° 80 (for red varieties) and 100 (for white varieties), at
16–20° 100 and 130, at 21–25° 150 and 180, and at temps.
higher than 26° 180 and 230 mg. SO₂/l., resp. After the
fermentation wines treated with 230 mg. SO₂/l. contained
not more than 10–13 mg. of free SO₂/l. E. Wiericki

SHUMAKOV, A. M.

Dissertation: "The Uses of Microorganisms (Microflora) in Viniculture." Dr Tech
Sci, Georgian Inst of Agriculture, Odessa 1953.

W-30928

SO: Referativnyy Zhurnal, No. 5, Dec 1953, Moscow, AN USSR (1024993)

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550210012-4

SINUMAKOV, A. I.

Dissertation: "Changes of Microflora in Wine-Making Processes." Dr Tech Sci, Georgian Order of Labor Med Banner Agricultural Inst, 25 May 54, Zarya Vostoka, Tbilisi, 15 May 54.

SC: SUM 284, 26 Nov 1954

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550210012-4"

SHUMAKOV, A.M.

Accurate use of physical methods of analysis. I.A. M. Shumakov (Agr. Inst., Odessa). *Vinodel'ye i Vinogradarstvo S.S.R.*, 15, No. 8, 50-2 (1958).—A brief discussion is given of the detn. of the sp. gr. of wine materials during the aging period as a control of the formation of sugars. The methods used in the plants are described. The use of the pycnometer and the conversion of d_2^{20} to d_1^{20} is discussed briefly. Shirley B. Radding.

med

HUMAKOV, B. A., Skripchinskaya, L.V.

ice

transition to a new irrigation system for water cultivation of rice.
idr. i mel. 4 no. 4, 1952.

Monthly List of Russian Accessions, Library of Congress,
July, 1952. UNCLASSIFIED.

temporary cylinders. For the sector in the ilmenium of the river valley, it is necessary that the cylinders be installed not across the ilmenium, but concentrically; the irrigation norm is 10 000 cubic meters per hectare.

Card

: 1/1

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001550210012-4"

M

COUNTRY :
CULTURE : CULTIVATED PLANTS.
REF. JUR. : REF ZHUR - BIOLOGIYA, NO. 4, 1959; NO. 15547

AUTHOR :
INST. :
PUB. :

ORIG. PUB. :

APP. 101 : size of the watering standards have an effect
on the magnitude of the water consumption
factor. More frequent waterings with lesser
amounts give a lesser value of water consumption
factor.

--Yu.L.Guzhev

CARD: 2/2

GOROKHOVA, M.V.; SHUMAKOV, B.A.

Distillation of the Veselyy Reservoir. Gidrokhim. mat. 26:116-143
'57. (MLRA 10:8)

1. Yuzhnnyy nauchno-issledovatel'skiy institut gidrotekhniki i
melioratsii, Novocherkassk.
(Veselyy (Rostov Province)--Reservoirs) (Water--Composition)

SHUMAKOV, B.A.

Measures for the development of water resources in the Northern
Caucasus. Trudy Okean. kom. 5:353-357 '59. (MIRA 13:6)
(Caucasus, Northern--Water resources development)

SHUMAKOV, B.A., prof.; TULYAKOVA, Z.F., kand.sel'skokhoz.nauk

Growing rice in the U.S.S.R. Zemledelie 8 no.11:35-38 N '60.
(MIRA 13:10)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh
nauk im. V.I.Lenina (for Shumakov).
(Rice)

SHUMAKOV, B.A., prof.

Multistage basin system of irrigation with water delivery from a
large reservoir. Gidr.i mel. 12 no.3:38-43 Mr '60.
(MIRA 13:6)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh
nauk im. Lenina.
(Irrigation)

SHUMAKOV, B.A., zasl. deyatel' nauki i tekhniki RSFSR, prof.;
ZELENETSKAYA, L.V., red.; SAYTANIDI, L.D., tekhn. red.

[Irrigation farming]Oroshaemoe zemledelie. Moskva, Izd-vo
M-va sel's.khoz.RSFSR, 1962. 191 p. (MIRA 15:10)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokho-
zyaystvennykh nauk im. V.I.Lenina (for Shumakov).
(Irrigation farming)

SHUMAKOV, Boris Apollonovich, prof., zasl. deyatel' nauki i tekhniki RSFSR; SHUMAKOV, Boris Borisovich, kand. tekhn. nauk; ADEL'FINSKAYA, Ye.N., red.; SAYTANIDI, L.D., tekhn. red.

[Basin snow-water irrigation] Limannoe oroshenie. Moskva, Izd-vo M-va sel'khoz. RSFSR, 1963. 131 p. (MIRA 16:10)
(Irrigation)

SHUMAKOV, B.A., akademik, red.; TOLSTOV, M.A., red.

[Work mechanization in irrigation farming] Mekhaniza-
tsiya rabot v oroshaemom zemledelii. Rostov-na-Donu,
Rostovskoe knizhnoe izd-vo, 1965. 152 p.
(MIRA 19:1)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk
imeni V.I.Lenina (for Shumakov).

SHUMAKOV, Boris Apollonovich, prof., zasl. deyatel' nauki i tekhniki RSFSR; SHUMAKOV, Boris Borisovich, kand. tekhn. nauk; ADEL'FINSKAYA, Ye.N., red.; SAYTANIDI, L.D., tekhn. red.

[Basin snow-water irrigation] Limannoe oroshenie. Moskva, Izd-vo M-va sel'khoz. RSFSR, 1963. 131 p. (MIRA 16:10)
(Irrigation)

ADAMOV, N.T.; NIKISHIN, K.Ye., kand. med. nauk.; SHUMAKOV, F.K.

Diagnostic value of spot roentgenography in pulmonary tuberculosis.
Vest. rent. i rad. 33 no.6:19-22 N-0 '58. (MIRA 12:1)
(TUBERCULOSIS, PULMONARY, diag.
aimed x-ray (Rus))

SHUMAKOV, I.A., Cand Med Sci — (diss) "Effect of certain
neurotropic substances ^{upon} ~~on the~~ ^{outbreak} ~~genesis~~ and course of
experimental nephritis." Kursk, 1959, 13 pp (Second Mos
State Med Inst im N.I. Pirogov) 250 copies (KL, 33-59, 122)

BAKHMETOVA, T.Ye.; DOVGER, F.F.[deceased]; SMIRNOV, P.A.; PROKHOROV,
A.N.; SHUMAKOV, I.A.; MIROSHINA, Yu.N.; SHAGALOV, Ye.S.,
red.;

[Album of sketches of stock equipment for the erection of
structural elements] Al'bom chertezhei inventarnykh priso-
soblenii dlia vozvedeniia stroitel'nykh konstruktsii. Mo-
skva. Pt.1.[Cradles, stagings, ladders, guard rails. Ap-
proved by a resolution of the technical administration
No.163 of Dec. 30, 1959] Liul'ki, ploshchadki, lestnitsy,
ograzhdeniya. Utverzhden resheniem tekhnicheskogo uprav-
leniya No.163 ot 30 dekabria 1959 g. 1962. 141 p.

(MIRA 15:10)

1. Vsesoyuznyy institut po proyektirovaniyu organizatsii
energeticheskogo stroitel'stva "ORGENERGOSTROI." Moskovskiy
filial.

(Building)

SHUMAKOV L.G.

ca

PREDICTION AND PROPERTIES INFLUENCE

Operation of the blast furnace on one hundred per cent agglomerate. S. L. Kopitevskil, L. G. Shumakov, K. T. Zhdanovskii, A. G. Kononenko and A. V. Meshalkin. *Tekhnicheskaya Praktika*, Met., No. 7, 10-13 (1939).—Agglomerate contg. FeO 19-23% exhibited max. mech. strength and greatest uniformity. A content of pieces coarser than 5 mm. in the agglomerate has no direct effect on the capacity of the blast furnace. The agglomerate should be finer than 25 mm. The 5-25-mm. fraction should be utilized without a preliminary agglomeration. The change in the air blast must be not more than 50 cu. m./min. at one time. The temp. of the blast must be raised not more than by 15° every 15 min. The temp. of the blast can be raised to 750°. The consumption of coke decreased from 1930 kg./ton of pig Fe with 83% agglomerate in the charge to 850 kg./ton of pig Fe with 100% agglomerate. The capacity under the same conditions increased from 850 to 1050 tons/day. The loss of Fe in the flue gases decreased from 400 to 160 kg./tons of pig Fe. A good heat balance was obtained with a ratio coke: pig Fe = 0.8 l at 800°

blast temp. The normal content of CO₂ in the gas was 13-14%. An increase of the diam. of the tuyère when 100% agglomerate is used and a further improvement of the quality of agglomerate can produce a better coeff. of the utilization of the useful vol. of the furnace, reduce the consumption of fuel and increase the daily capacity to 1300-1400 tons.

W. R. Henn

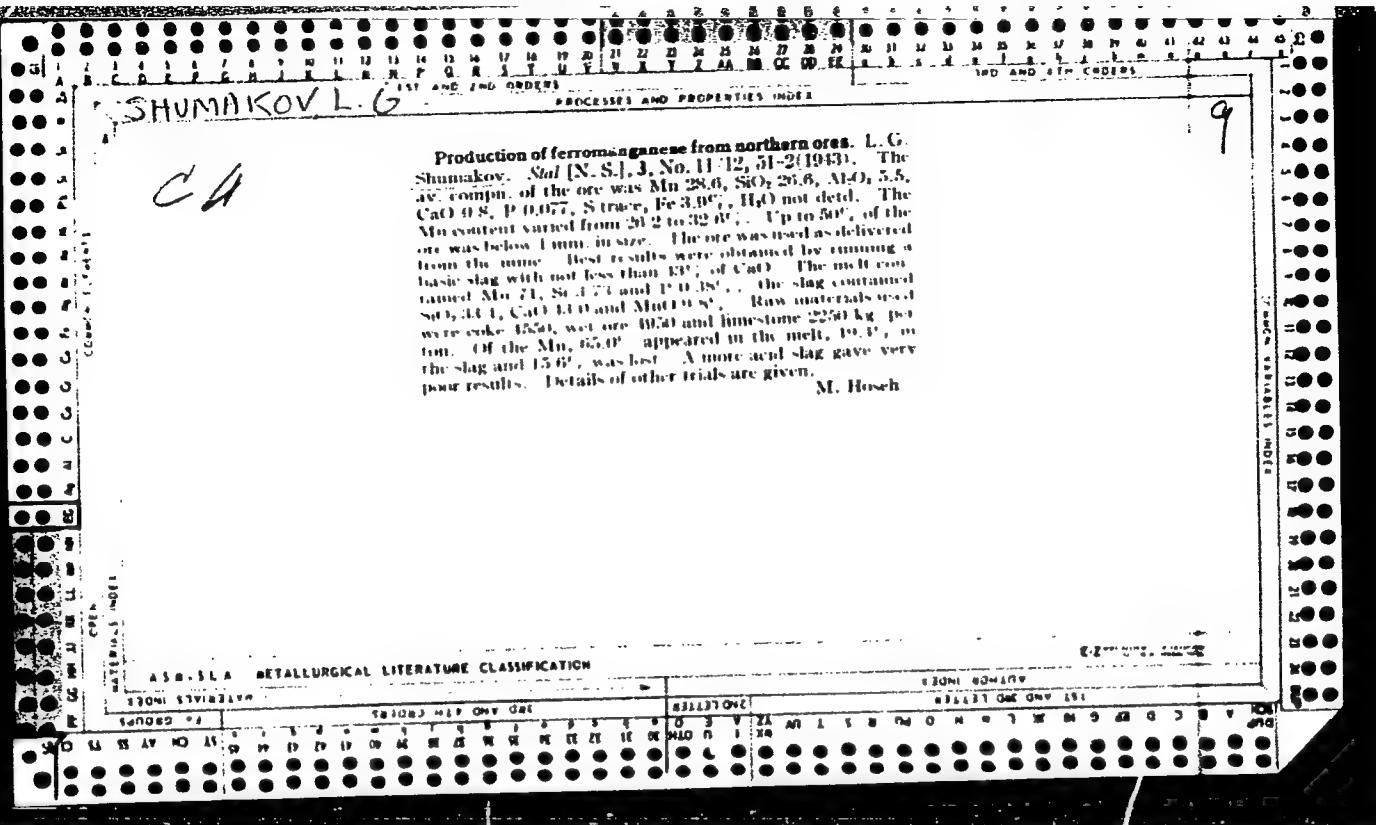
AMERICAN METALLURGICAL LITERATURE CLASSIFICATION

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830⁰⁰ 33-174

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550210012-4"



SHURAMOV, L. G.

Kolesanov, F. N. and Shuramov, L. G. "Rebel anti-material
Talib and a Soviet General Plan," Pravda, Stalin's
S.A.L. No. 11, p. 3-L., - 31 May 1949.

DC: - 11, i. Dzerzhinsk, (Latvian 'Zurnal Tyskh Stativ', No. 26, 1949)

IS.3200

77002
SOV/133-60-2-2/25

AUTHORS:

Shumakov, L. G., and Chusovitin, G. I. (Engineers)

TITLE:

Experimental Smelting of Ferromanganese in a Large Blast Furnace

PERIODICAL:

Stal', 1960, Nr 2, pp 104-107 (USSR)

ABSTRACT:

The experimental smelting of ferromanganese has shown that application of acid slag, high-temperature blast and high pressure of top gas permitted the obtaining of high technical and economical performance figures. The smelting of Chiabura manganese ore was done in a blast furnace with the useful volume of 1,000 m³. The ore has the following composition

a) Chemical:

Mn	MnO ₂	MnO	P	S	Fe
44.25	45.8	19.8	0.18	0.32	3.25
SiO ₂	Al ₂ O ₃	CaO	MgO	H ₂ O	
12.05	3.32	2.67	0.87	5.74	

b) Granulometric

Granulation, mm.	0-5	5-10	10-25	>25
content, %	46.7	26.3	17.1	9.9

Card 1/4

Experimental Smelting of Ferromanganese
in a Large Blast Furnace

77602
SOV/133-60-2-2/25

Limestone with 54.5-55.0% CaO (free from sulfur and phosphorus) was added to the charge. Smelting was conducted on coke with 12.8% ash content and 0.54% sulfur. The established method of steady and smooth operation of the furnace is characterized by the following performance figures: (1) The average daily production of cast iron, ton: liquid, 465; pig, 448. (2) Consumption kg/ton of liquid cast iron: dry coke, 1462; ore, 2281; limestone, 528; metal additions, 248. (3) Blast parameters: blast consumption (m^3/min), 1524; pressure (atm/gage), 1.42; temperature (C), 874; moisture (gr/m^3), 4.5. (4) Parameters of blast furnace gas: pressure (atm/gage), 0.57; temperature (C) 347; gas content, (%), CO_2 - 6.9, CO - 32, 9. (5) amount of slag Kg/ton of cast iron, 953. (6) Amount of dust Kg/ton of cast iron, 108. Composition of melt products, %: (a) ferromanganese: C, 7.05; Mn, 76.1; Si, 0.93; S, 0.013; P, 0.38; (6) slag: SiO_2 , 32.5; Al_2O_3 , 12.3; CaO, 34.4; MgO, 2.3; MnO, 17.2. Basicity of acid slag

Card 2/4

Experimental Smelting of Ferromanganese
in a Large Blast Furnace

77602
SOV/133-60-2-2/25

is 0.98-1.08% and manganous oxide content 15.0-21.5%. The relationship between MnO contents in slag and its basicity ($\text{CaO}:\text{SiO}_2$) is shown in Fig. 3. The comparison of different heat balances shows that the general heat consumption when working on acid slags is at a minimum, and heat utilization efficiency rather high. As a result of smelting ferromanganese with acid slags (the sum of $\text{SiO}_2 + \text{Al}_2\text{O}_3$ is about 45%). The total loss of manganese is decreased and the degree of its utilization is increased in comparison to smelting with basic slags. The whole process is more economical in spite of the fact that oxygen blast was not used. There are 3 tables; 3 figures; and 4 Soviet references.

Card 3/4

SHUMAKOV, L.G., inzh.; VARNAVSKIY, I.N., inzh.; IZOTOV, N.P., inzh.;
VOLKOV, S.S., inzh.

Conversion of low-carbon, high-temperature molten metal in
open hearth furnaces. Stal' 22 no.1:37 Ja '62. (MIRA 14:12)

1. Orsko-Khalilovskiy metallurgicheskiy kombinat.
(Steel--Metallurgy)

KOLESANOV, F.F.; SHUMAKOV, N.S.; FEDORENKO, N.V.; SHUMAKOV, L.G.;
GIMMEL'FARB, A.I.

Dressing of Akkermanovka ores and sintering of the
concentrates produced. [Sbor. trud.] Nauch.-issl.
inst.met. no.4:44-53 '61. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut metallurgii
(for Kolesanov, Shumakov, Fedorenko). 2. Orsko-Khalilovskiy
metallurgicheskiy kombinat (for Shumakov, Gimmel'farb).
(Akkermanovka region—Iron ores)
(Ore dressing) (Sintering)

KOLESANOV, F.F.; SHUMAKOV, N.S.; FEDORENKO, N.V.; SHUMAKOV, L.G.;
GIMMEL'FARB, A.I.

Dressing of Akkermanovka ores and sintering of the
concentrates produced. [Sbor. trud.] Nauch.-issl.
inst.met. no.4:44-53 '61. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut metallurgii
(for Kolesanov, Shumakov, Fedorenko). 2. Orsko-Khalilovskiy
metallurgicheskiy kombinat (for Shumakov, Gimmel'farb).
(Akkermanovka region—Iron ores)
(Ore dressing) (Sintering)

AUTHOR
TITLE

KUDRYAVTSEV, YE.V., SHUMAKOV, N.V.,
Mean Temperature Method for Solid Body Heating Investigation.
(Metod sredmey temperatury dlya izucheniya protessa nagreva
tverdogo tela - Russian)

PA - 2814

PERIODICAL

Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 4, pp 856-867, (U.S.S.R.)
Received 5/1957

Reviewed 6/1957

ABSTRACT

A method for the investigation of a non-steady heat exchange of solid bodies is described. A temperature point is shown to exist which is very close to the average slab temperature during heating. The problem of the heating of a flat slab by a heat flow, which changes according to time and in accordance with a linear law, is solved. Here the initial temperature of the disk is parabolically distributed. It is shown that with the initial temperature of the slab being homogeneous the temperature change of the plane with the coordinate $x^* = \frac{\sqrt{3}}{3} R$ corresponds to the change of the average slab temperature. x^* is the coordinate of the average-temperature point. The temperature value at the point x^* is shown to be equal to the average slab temperature in four cases. It is shown that the method of average temperature can be used for discovering the boundary function. In comparison with the method of consecutive intervals it is stated to be possible immediately to determine at any (but known) point of the disk the temperature distribution according to thickness by means of this method and immediately to pass on to the boundary function. The method of aver-

Card 1/2

Mean Temperature Method for Solid Body
Heating Investigation.

PA - 2814

age temperature, however, demands a solution of the equations for the heat conductivity in the case of determined boundary conditions for the same operations. It is best to combine these two methods. The values of the boundary function found by means of the first method agree well with those which were found by the second method.
(With 4 illustrations and 2 citations from Slav publications)

ASSOCIATION ENIN of the Academy of Science of the USSR (ENIN AN SSSR)
PRESENTED BY
SUBMITTED 31. 1. 1956
AVAILABLE Library of Congress
Card 2/2

AUTHOR

SHUMAKOV, N.V.,

TITLE

Methed of Experimental Investigation of Solid Body Heating.
(Metod eksperimental'nogo izucheniya protessa nagревa tverdogo tela - Russian)

PERIODICAL

Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 4, pp 844-855, (U.S.S.R.)
Received 5/1957

PA - 2813

Reviewed 6/1957

ABSTRACT

The theory of the method of consecutive intervals is given. This method satisfies the following demands. It can be used in the case of great thermal stresses, of unknown and unchangeable boundary conditions, and by means of it the quantities which characterize the heating of the body can be locally determined. The problem of the heating of an infinite flat-parallel slab was solved in consecutive intervals. First it is shewn how to select the boundary conditions. The method of consecutive intervals itself consists in dividing the total heating process into periods, on which occasion the boundary function is assumed to be constant. The calculation and afterwards also the experimental examination of the method are given. The solution obtained gives the relation between the temperature field of the slab during its heating (cooling) with variable boundary conditions. On this basis the method mentioned was elaborated and experimentally confirmed. Basic problems were investigated which refer to the construction of a q-calorimeter (apparatus for the investigation of the local heat exchange of solid bodies with their surroundings). The bases established for the com-

Card 1/2

39518
S/649/61/000/139/010/018
1028/I228

24.5.200

AUTHORS: Kudryavtsev, E. V. and Shumakov, N. V.

TITLE: Similitude of the non-stationary heat exchange of solid bodies under identical conditions

SOURCE: Moscow. Institut inzhenerov zheleznodorozhnogo transporta. Trudy, no. 139. 1961.
Teoriya podobiya i yeye primeneniye v teplotekhnike; trudy pervoi mezhvuzovskoy
konferentsii, 122-130

TEXT: Heat exchange of solid bodies cannot be solved by the theory of similitude, since the boundary conditions of the real process cannot be expressed analytically a priori. An investigation was conducted on cylinders having one heat-exchanging and the remaining thermally insulated surfaces. The experiments establish an equation of non-stationary heat exchange:

$$q(\tau_h) = \text{idem} \quad \text{for } \tau_h/c\rho R = \text{idem} \quad (1)$$

where $q(\tau_h)$ = the value of the heat flux entering the body at the moment τ_h , $c\rho$ = the volume heat capacity of the body substance, R = the determining dimension, and τ_h is called the "time of similar heat content".
The following consequences are drawn from this formula for different bodies heated under identical con-

Card 1/2

Similitude of the non-stationary...

S/649/61/000/139/010/018
I028/I228

ditions: a) the variations of the mean integral temperatures of the bodies, taken at times of similar heat content, are equal; b) the variations of the surface temperatures of the bodies, taken at times of similar heat content, are equal; c) the ratio of the heat contents of two bodies, taken at times of similar heat content, is equal to the ratio $(c\rho R)_A/(c\rho R)_B$; d) at the same temperature head, different heat fluxes enter the different bodies; e) the dependence of the heat flux on the temperature head is the same for different bodies, provided their thermal resistances R/y are equal. There are 4 figures.

X

ASSOCIATION: Energeticheskiy institut AN SSSR (Institute of Energetics, AS USSR)

Card 2/2

SHUMAKOV, N. V.

PHASE I BOOK EXPLOITATION

SOV/5909

Kudryavtsev, Yevgeniy Vasil'yevich, Konstantin Nikolayevich Chakalev, and Nikolay
Vasil'yevich Shumakov

Nestatsionarnyy teploobmen (Nonstationary Heat Exchange) Moscow, Izd-vo AN SSSR,
1961. 156 p. Errata printed on the inside of back cover. 2500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Energeticheskiy institut im. G. M.
Krzhizhanovskogo.

Resp. Ed.: A. S. Predvoditelev, Corresponding Member, Academy of Sciences
USSR; Ed. of Publishing House: G. B. Gorshkov; Tech. Ed.: L. V. Yepifanova.

PURPOSE: This book is intended for specialists interested in heat-exchange
problems.

COVERAGE: Methods of investigating the boundary conditions of heating (cooling)
in solid bodies are discussed. These methods are free from the restrictions
of the regular-regime method and the exponential methods, and are said to have

Card 1/4

SOV/5909

Nonstationary Heat Exchange

been developed by the authors. Particular attention is given to measuring methods and to the application of established formulas for computing boundary conditions of nonstationary heat exchange. Stationary and nonstationary heat regimes are also discussed. The authors thank Engineers L. D. Kalinnikov and O. I. Luneva. There are 37 references: 31 Soviet, 4 German, 1 English, and 1 Italian.

TABLE OF CONTENTS:

Conventional Symbols	3
Introduction	5
Ch. I. Methods of Determining Boundary Conditions of Nonstationary Heat Exchange	8
1. Regular-regime method	8
2. Exponential method	18
3. Measuring the heat flow in walls by the "two-point" method	41

Card 2/4

KUDRYAVTSEV, Ye.V.; SHUMAKOV, N.V.

Similitude of nonstationary heat exchange in solid bodies under identical conditions. Trudy MIIT no.139:122-130 '61. (MIRA 16:4)

1. Energeticheskiy institut AN SSSR.
(Heat—Transmission) (Thermodynamics)

S/170/61/004/001/010/020
B019/B056

AUTHORS: Kudryavtsev, Ye. V., Shumakov, N. V.

TITLE: Effect of Size and Material of a Solid on Nonsteady Heat Exchange

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1961, Vol. 4, No. :,
pp. 63-70

TEXT: The effect of the size of a body upon its nonsteady heat exchange was studied by heating it in a water thermostat. The effect produced by the material of the body was studied in a potential flow, and likewise cooling was studied in an ice tank. The dependence of the heat flow on time and on the temperature drop, as well as the dependence of the heat exchange coefficient on time and on the temperature gradient was determined for various test pieces. As test pieces, silver pieces with 200, 150, 100, 75, 50, 25, and 12.5 mm radius, cobalt-, copper-, zinc-, and aluminum-pieces having a radius of 50 mm were used. A relation was introduced between heat flowing to the body and the duration of the process and the characteristic of the body concerned. It is shown that this

Card 1/2

Effect of Size and Material of a Solid on
Nonsteady Heat Exchange

S/170/61/004/001/010/020
B019/B056

equation is general enough for explaining a nonsteady heat exchange of various bodies with conditions otherwise being equal. This relation is derived on the assumption that to various bodies heated under equal conditions, the same quantities of heat are conveyed within certain periods τ , where the τ are proportional to their thermal capacity. Therefore, $q\tau = \text{idem}$ holds, with $\tau/c_p R = \text{idem}$. The physical nature of this relation is studied. It is found that the nonsteady nature of the process on both sides of that plane through which the heat exchange takes place, must be taken into account. A theoretical calculation may under certain circumstances only be carried out by means of computers. V. N. Sokolov is mentioned. There are 4 figures, 1 table, and 3 Soviet references.

ASSOCIATION: Energeticheskiy institut AN SSSR im. G. M. Krzhizhanovskogo, g. Moskva (Institute of Power Engineering of the AS USSR imeni G. M. Krzhizhanovskiy, Moscow)

SUBMITTED: July 21, 1960

Card 2/2

SHUMAKOV , R.

How we succeeded to reduce the cost of taxicab transportations.
Avt.transp. 42 no. 4:39-40 Ap '64. (MIRA 17:5)

1.Starshiy ekonomist Kalininskogo avtokhozyaystva legkovykh
avtomobiley.

SHUMAKOV, V.

Organize the selling of surplus products through the administration
of collective farms. Sov.torg. no.1:47-48 Ja '58. (MIRA 10:12)

1. Starshiy inspektor otdela organizatsii torgovli Chelyabinskogo
Oblastnogo upravleniya torgovli.
(Farm produce--Marketing)

ZHUDOV, V., inzh.; SHUMAKOV, V., inzh.; LARIONOV, M., inzh.; GAVRILENKO,
V. [Havrylenko, V.], inzh.

Thermal treatment of large heavy concrete products by heating
without steam. Bud.mat.i konstr. 4 no.4:1-4 Jl-Ag '62.
(MIRA 15:8)
(Precast concrete)

SHUMAKOV, V.A.

What to do in case of the damage of low-voltage wires on a VL8
electric locomotive. Elek. i tepl.tiaga no.8:34-35 Ag '63.

(MIRA 16:9)

l. Obshchestvennyy mashinist-instruktor depo Kurgan Yuzhno-Ural'skoy
dorogi.

(Electric locomotives--Maintenance and repair)

SHUMAKOV, V.E., inzhener; PRASOV, M.M., inzhener; ABAYEV, V.M., inzhener po trudu; VOL'PITER, E.V., inzhener-teplotekhnik; MALAKHOVSKIY, L.A.; MIKHNO, B.P.

Mechanizing slag removal from slag pockets in open-hearth furnaces. Metallurg no.9:14-19 S '56. (MIRA 9:10)

1. Starshiy inzhener tekhnicheskogo otdela Metallurgicheskogo zavoda imeni Voroshilova (for Malakhovskiy). 2. Starshiy konstruktor proyektnego otdela Metallurgicheskogo zavoda imeni Voroshilova (for Mikhno).
(Metallurgical plants--Equipment and supplies)

ANASHKIN, A.T.; GORBACHEV, Ye.A.; RUMYANTSEV, Ye.K.; STROTS, V.I.;
SHUMAKOV, V.G.; PESTRYAKOV, A.I., red.; GOR'KOVA, Z.D.,
tekhn.red.

[Disassembling and assembling the SK-3 combine] Razborka i
sborka kombaina SK-3. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1961.
230 p.
(Combines (Agricultural machinery))

IZAKSON, Kh.I.; SHUMAKOV, V.G.; SHAPIRO, A.V., inzhener-ispytatel'

Main trend of the chief designer. Nauka i zhizn' 29 no.11:
20-26 N '62. (MIRA 16:1)

1. Glavnyy konstruktor Gosudarstvennogo spetsial'nogo konstruktorskogo byuro po samokhodnym kombaynam i samokhodnym shassi (for Izakson).
2. Nachal'nik laboratorii Gosudarstvennogo spetsial'nogo konstruktorskogo byuro po samokhodnym kombaynam i samokhodnym shassi (for Shumakov).

(Agricultural machinery--Design)

SHUMAKOV, V.G., inzh.

Work conditions on the SK-3 and SK-4 self-propelled combines.
Trakt. i sel'khozmash. 33 no.9:24-25 S '63. (MIRA 16:10)

(Combines (Agricultural machinery)--Safety measures)

SHUMAKOV, V.I., student

The use of 2 per cent novocaine solution in vascular surgery.
Khirurgia, no.9:64-67 S '55. (MLRA 9:2)

1. Iz kafedry topograficheskoy anatomii i operativnoy khirurgii
(zav. prof. V.V. Kovarov) i Moskovskogo ordena Lenina meditsinskogo
instituta.

(CARDIOVASCULAR SYSTEM, surg.

large vessels, exper. of large vessels, 2 per cent solution
of novocain anesth.)

(PROCAINE, anesth. and analgesia

2 per cent solution in exper. surg. of large vessels)

BREDIKIS, Yu.I., SHUMAKOV, V.I.

Danger zones of the heart. [with summary in English]. Eksper.khir.
l no.1:47-53 Ja-#56 (MIRA 11:10)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomi
(zav. - prof. V.V. Kovanov) I Moskovskogo ordena Lenina meditsinskogo
instituta imeni I.M. Sechenova.

(HEART, wounds and injuries

exper. determ. of danger zones (Rus))

(WOUNDS AND INJURIES, exper.

heart, determ. of danger zones. (Rus))

SHUMAKOV, V.I.

Experimental surgical correction of mitral insufficiency [with summary in English] Eksper.khir. 2 no.6:3-6 N-D.'57. (MIR 11:2)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomi (zav. prof. V.V.Kovanov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

(MITRAL VALVE, dis.

exper. insuff. in dogs, surg., pruse string technic (Rus))

SHUMAKOV, V. I., Candidate Med Sci (diss) -- "Surgical correction of insufficiency of the mitral valve (Experimental-anatomical investigation)". Moscow, 1959. 18 pp (First Moscow Order of Lenin Med Inst im I. M. Sechenov), 200 copies (KL, No 24, 1959, 153)

SHUMAKOV, V.I.

Method for creating experimental mitral insufficiency. Eksp.
khir. 4 no.2:20-23 Mr-Ap '59. (MIRA 12:5)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii
(zav. - prof. V.V.Kovanov) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Semashko.
(MITRAL VALVE, dis.
exper. insuff., method of prod. in dogs (Rus))

YEMEL'YASHENKOV, A.I.; SHUMAKOV, V.I.

Selection of effective surgical approach to the anterior and
posterior surfaces of the left heart. Vest.khir. 84 no.1:
32-36 Ja '60. (MIRA 13:10)
(HEART--SURGERY)

SOLOV'YEV, G.M., starshiy nauchnyy sotrudnik; SHUMAKOV, V.I., kand.med.
nauk; KHIL'KIN, A.M., aspirant

Method for longitudinal sternotomy in approaching the heart.
Vest.khir. '86 no.3:38-43 Mr '61. (MIRA 14:3)

1. Iz gospital'noy khirurgicheskoy kliniki (dir. - prof. B.V.
Petrovskiy) i kafedry operativnoy khirurgii (zav. - prof. V.V.
Kovanov) 1-go Moskovskogo ordena Lenina meditsinskogo instituta
im. I.M. Sechenova.

(HEART—SURGERY)

(STERNUM—SURGERY)

SHUMAKOV, V. I.

Modification of the artificial blood circulation apparatus of
the Crafford-Senning system. Grud. khir. no.2:89-92 '62.
(MIRA 15:4)

1. Iz laboratorii iskusstvennogo krovoobrashcheniya (nauchnyy
rukovoditel' - prof. B. V. Petrovskiy, zav. doktor meditsinskikh
nauk G. M. Solov'yev) Nauchno-issledovatel'skogo instituta
eksperimental'noy khirurgicheskoy apparatury i instrumentov
Ministerstva zdravookhraneniya SSSR na baze Gospital'noy khirurgi-
cheskoy kliniki (zav. - prof. B. V. Petrovskiy) I Moskovskogo
ordena Lenina meditsinskogo instituta imeni I. M. Sechenova.

(PERFUSION PUMP(HEART))

SHUMAKOV, V.I.

Use of atrioannuloplasty for the correction of mitral insufficiency in an experiment. Trudy 1-go MII 16-30-40'62.
(LITERA 16:6)

1. Iz kafedry operativnoy khirurgii i topograficheskoy anatomii
(zav. - chlen-korrespondent AMN SSSR prof. V.V.Kovanov) Per-
vogo Moskovskogo ordena Lenina meditsinskogo instituta.
(MITRAL VALVE—SURGERY)

SOLOV'YEV, G.M., prof.; SHUMAKOV, V.I., kand. med. nauk (Moskva)

Impressions from the scientific mission to the U.S.A. for
exchange of experience in the field of cardiovascular sur-
gery. Khirurgia 39 no.5:135-142 My '63. (MIRA 17:1)

BUNYATYAN, A.A.; SOKOLOV, G.N.; SHUMAKOV, V.I.; KUDRIAS, N.Ya.

Anesthetic characteristics and safety provisions in operations
on an open heart with extracorporeal circulation. Trudy I-go
MMI 33:199-201 '74. (MIRA 16:3)

PETROVSKIY, B.V.; SLOV'YEV, G.M.; SHUMAKOV, V.I.; BUNYATYAN, A.A.;
KHODAS, M.Ya.; SHABALKIN, B.V.; RYSHKIN, V.S.; PYATNITSKAYA, G.Kh.

Results of work with the apparatus of artificial blood circulation
of the Crawford-Senning system. Trudy 1-go MMI 33:9-14 '64.
(MIRA 18:3)

SHUMAKOV, V.M.

Results of catamnestic examination of schizophrenics having committed socially dangerous actions. Sud.-med. ekspert. 8 no.1:40-44 Ja-Mr '65. (MIRA 18:5)

1. Institut psikiatrii (dir. - prof. A.V.Snezhnevskiy) AMN SSSR i TSentral'nyy institut sudebnoy psikiatrii imeni Serbskogo (dir. - dotsent G.V.Morozov), Moskva.

SHUMAKOV, V. S., Cand Med Sci (diss) -- "The problem of the mechanism of action of sodium salicylate in rheumatism". Khar'kov, 1960. 16 pp (Khar'kov State Med Inst), 200 copies (KL, No 14, 1960,139)

SHUMAKOV, V.S. Cand. Agricul. Sci.

Dissertation: "On the Properties of a Forest Floor in Pine Types of
Forests." Soil Inst imeni V.V. Dokuchayev, Acad Sci USSR, 5 Feb 47.

SO: Vechernyaya Moskva, Feb, 1947 (Project #17836)

SHUMAKOV V.S.

CD

PRINCIPLES AND PRACTICE OF MEDICINE

15

The causes that hinder nitrification in forest soils. V. S. Shumakov. *Pochvovedenie* (Pedology) 1948, 227-35. Aminominification is more active in the forest litter of the pine-huckleberry assoocn. than in the pine-mixed-grove assoocn. The reverse is true for nitrification. It is much weaker in the conifer than in the mixed forest. The H₂O-sol. substances of the autumn leaf fall have a depressing effect on nitrification. J. S. Josse

SHUMAKOV, V. S.

Afforestation

Aspects of oak plantings on chestnut and light chestnut type of soils. Les. khoz. no. 5, 1952.

Monthly List of Russian Accessions, Library of Congress, August, 1952. Unclassified.

USSR/Forestry - Forest Cultures.

K.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15422

Author : V.S. Shumakov

Inst : -
Title : The Advantages of Fall Deep Tilling for Forest Cultures
in the South East.
(O preimushchestve osenney plantazhnoy vapashki pochvy
pod leskul'tury v usloviyakh yugo-vostaka).

Orig Pub : Lesn. kh-vo, 1957, No 7, 45-48

Abstract : No abstract.

Card 1/1

SHUMAKOV, V.S.; MIKHOVICH, A.I.

Soil salinization by deposition of salt dust from the
atmosphere in the Elista region. *Pochvovedenie* no.7:
(MIRA 13:7)
112-113 '60.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lesovedstva
i mekhanizatsii lesnogo khozyaystva, Pushkino.
(Elista region--Alkali lands)

SHUMAKOV, V.S.

Biochemical activeness of dark grey forest-steppe soils under
the canopy of various forest plantations. Pochvovedenie no.10:
47-54 '60. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lesovedstva i
mekhanizatsii lesnogo khozyaystva.
(Forest soils)

СИЧЕНКОВ, Н.П., проф., кав. рад.; МАКАРОВА, Н.Н., рад.;
ДЕРЯБИН, Д.И., канд. sel'khoz. nauk, рад.; ЕНЕЛЗИНОВ,
Г.Ф., канд. sel'khoz. nauk, рад.; ИВАННИКОВ, С.П., канд.
sel'khoz. nauk, рад.; ИВАНОВ, Г.Г., рад.; ЛАРЮКИН, Г.А.,
канд. tekhn. nauk, рад.; ЛОСИЦКИЙ, К.З., доктор sel'khoz.
nauk' zam. otv. рад.; МИРОНОВ, В.В., канд. sel'khoz. nauk,
рад.; РОДИОНОВ, А.Я., канд. sel'khoz. nauk, рад.;
ТРУБНИКОВ, М.М., канд. ekon. nauk, rad.; ЧЕВЕДАЕВ, А.А.,
канд. sel'khoz. nauk, rad.; ШУМАКОВ, В.С., канд. sel'khoz.
nauk, rad.; ЮРГЕНСОН, Е.Б., доктор biol. nauk, rad.; ТРОПИН,
I.V., канд. sel'khoz. nauk, rad.

[Studying the performance of new machinery in silvicultural
work; scientific papers] Issledovanie rabochikh protsessov
novykh mashin na lesokul'turnykh rabotakh; nauchnye trudy.
Moskva, Izd-vo "Lesnaia promyshlennost'," 1964. 111 p.
(MIRA 17:7)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut
lesovodstva i mekhanizatsii lesnogo khozyaystva.

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550210012-4

PRESNETSOV, V.D.; PONOMAREV, V.D.; PANFILOV, P.F.; SHUMAKOV, V.V.

Treatment of reverberatory furnace dusts at the Karsakpay copper
smelting plant. TSvet. met. 37 no.10;26-29 O '64. (MIRA 18:7)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001550210012-4"

SHUMAKOV, Ye.M.

25648. SHUMAKOV, Ye.M. Pamjati S. A. Predtechenskogo. (Entomolog 1895-1941).
Trudy Vsesoyuz. in-ta zashchity rasteniy vyp.2. 1949, s. 215-19.
Bibliogr: Spisk pechatnykh rabot S. A. Predtechenskogo>> s.218-19

SO: Letopis' Zhurnal' Nykh Statey, Vol. 34, Moskva, 1949.

SHUMAKOV, Ye.M.; VINOGRADOVA, N.M.; YAKHIMOVICH, L.A.

Dynamics of the accumulation and consumption of fat reserves in
the Eurygaster integriceps. Zool.zhur.33 no.1:87-101 Ja-F '54.
(MLRA 7:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zashchity
rasteniy, Leningrad. (Eurygasters)

SHUMAKOV, Ye. M.

USSR/ Biology - Plant physiology

Card 1/1 Pub. 22 - 51/52

Authors : Shumakov, Ye. M., and Yakhimovich, L. A.

Title : Morphological and histological metamorphotic characteristics of a cotton bug (cutworm moth) in connection with the appearance of diapause

Periodical : Dok. AN SSSR 101/4, 779-782, Apr 1, 1955

Abstract : The external changes (metamorphosis) of a cutworm moth cocoon were investigated to determine the histological and morphological changes during various stages of its germination and growth. Results obtained are listed. Six references: 4 Russian and Soviet, 1 English and 1 Italian (1911-1954). Drawing.

Institution : The V. I. Lenin All-Union Agricultural Acad., Inst. for the Protection of Plants

Presented by: Academician Ye. N. Pavlovskiy, December 25, 1954

SHUMAKOV, Ye.M.

Species of new Acrididae from Iran and Afghanistan. [with English
summary in insert]. Zool. zhur. 35 no. 12: 1859-1862 D '56.
(MLRA 10:1)
1. Vsesoyuznyy nauchno-issledovatel'skiy institut zashchity rasteniy.
(Iran—Locusts) (Afghanistan—Locusts)

COUNTRY : USSR
CATEGORY :

F-5

ABSTRACT JOUR. : RZBiol., No. 19, 1958, No. 87649

AUTHOR : Shumakov, Ye. M.
INST. :
TITLE : The Principal Achievements of Soviet
Agricultural Entomology (1917-1957)

CRIT. PUB. : Entomol. obozreniye, 1957, 36, No 4,
802-828

ABSTRACT : Over these 40 years there have been published
15-20 thousand entomological contributions.(350-600 each
year). The principal publications, primarily of the nature
of compendia and reviews, in particular: on services of re-
cording and forecasts, zonal distribution of pests, heavy
infestation pests (locusts, Euxoa segetum, Loxosteges
sticticalis, Kurygaster integriceps, Colorado potato beetle)
plant immunity, pest control methods (soil management,
biological, chemical, by use of aircraft, aerosols), on
quarantine service, pests of specific crops (grain crops,
cotton, sugar beet, legumes, vegetables, fruit and berries,
grapes, subtropical crops). An enumeration of the manuals,

CARD: 1/2

SHUMAKOV, Ye.M., kand. sel'skokhozyays tvennykh nauk.

Problems of controlling shield bug *Eurygaster integriceps* in the
U.S.S.R. Trudy VIZR no.9:3-18 '58. (MIRA 12:1)
(Eugygasters)

SHUMAKOV, Ye.M., kand. sel'skokhozyaystvennykh nauk; VINOGRADOVA, N.M.,
kand. sel'skokhozyaystvennykh nauk.

Ecology of the shield bug *Eurygaster integriceps*. Trudy VIZR no.9:
19-69 '58. (MIRA 12:1)
(Eurygasters)

SHUMAKOV, Ye.M., kand. sel'skokhozyays tvennykh nauk.

Phasia parasites of the shield bug Eurygaster integriceps Put.
Trudy VIZR no.9:313-321 '58. (MIRA 12:1)
(Eurygasters--Biological control)

SHTEYNBERB, D.M.; SHUMAKOV, Ye.N.

Tasks in the field of entomology viewed in the light of the decisions of the December Plenum of the Central Committee of the CPSU. Ent. oboz. 39 no.2:275-283 '60. (MIRA 13:9)
(Entomological research)

SHUMAKOV, Ye. M.

Agricultural entomology at the Eleventh International Entomological Congress in Vienna. Ent. oboz. 40 no. 2:477-481 '61.
(MIRA 14:6)

(Agricultural pests—Congresses)

SHTEYNBERG, D.M., prof. (Leningrad); SHUMAKOV, Ye.M. (Leningrad)

Harvest protection from pests and diseases. Priroda 51
no.10:64-68 O '62. (MIRA 15:10)

1. Zoologicheskiy institut AN SSSR.
(Plants, Protection of)

SHUMAKOV, Yevgeniy Markovich; BRYANTSEVA, Irina Borisovna; REUTSKAYA,
O.Ye., red.; BARANOVA, L.G., tekhn. red.

[Injurious and beneficial insects] Vrednye i poleznye nasekomye.
Leningrad, Sel'khozizdat, 1962. 108 p. (MIRA 15:6)
(Insects, Injurious and beneficial)

BOKSER, V.M., SHUMAKOV, Y.M.

Universal psychrometric table. Mashinostroyeniye no. 7-24
(MIRA 17-8)
1954.

TSYPIENKOV, Ye.P.; SHUMAKOV, Ye.M.

Results of the study of locusts in the U.S.S.R. Trudy VIZR
no.17:290-310 '63.

Soviet literature on locusts not included in the bibliography
of G.B. Bugdanov (1958). Ibid.:412-422 (MIRA 18:9)

SHUMAKOV, Ye. M.

"L'endemisme des locustides en Iran et en Afghanistan."

report submitted for 12th Intl Cong of Entomology, London, 8-16 Jul 64.

L 10576-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD

ACC NR: AP5025409

SOURCE CODE: UR/0181/65/007/010/3138/3139

AUTHOR: Bakradze, R. V.; Kutsykovich, M. B.; Shumakov, Yu. I.

ORG: All-Union Scientific Research Institute of Single Crystals, Kharkov
(Vsesoyuznyy nauchno-issledovatel'skiy institut monokristallov)

TITLE: Coefficients of linear expansion in single crystals of sodium iodide

SOURCE: Fizika tverdogo tela, v. 7, no. 10, 1965, 3138-3139

TOPIC TAGS: single crystal, sodium compound, iodide, thermal expansion, thallium

ABSTRACT: The coefficient of linear expansion was measured in NaI single crystals (with a thallium content of $\sim 2 \cdot 10^{-5}$, 0.41 and 0.52 wt.%). The specimens were cylindrical rods 50 mm long and 3 mm in diameter. Dilatometric curves are given in the 20-240°C range for heating and cooling at a rate of 200°/hr. The experiments were done on specimens containing water of crystallization, as well as on specimens pre-heated to 200°C. Anomalies were observed in the variation in length of the specimens containing water of crystallization at 70-80 and at 150-160°C. These irregularities showed up as a reduction in the length of the specimen during heating.

Card 1/2

Card 2/2

ACC NR: AR6029500

SOURCE CODE: UR/0137/66/000/005/I054/I054

AUTHOR: Shumakov, Yu. I.; Tananko, I. A.

TITLE: Tempering cycle of 2Kh13L steel alloyed with 1.0% nickel ✓

SOURCE: Ref. zh. Metallurgiya, Abs. 6I369

REF SOURCE: Vestn. Khar'kovsk. politekhn. in-ta, no. 5(53), 1965, 3-5

TOPIC TAGS: tempering, mechanical property / 2Kh13L steel

TRANSLATION: A study was made of cast 2Kh13L steel, containing (wt %): C--0.20-0.23, Si--0.31-0.50, Mn--0.41-0.61, S--0.023-0.030, P--0.020-0.024, Cr--13.44-14.20, Ni--0.82-1.0. Tempering was done directly after casting, as well as after preliminary normalization at 1050°C. Tempering of the steel at temperatures below 700-720°C for 4-8 hr did not produce the necessary hardness (about $22 R_{\sigma}$) and α_k (5-6 kg/cm²). The best combination of mechanical properties was obtained by a two-step temper: 730°C for 4 hr, after which the furnace temperature was reduced to 650°C and the steel was held for 1 hr; afterward the samples were air cooled. V. Olenicheva.

SUB CODE: 11,13

UDC: 669.15.018.8

Card 1/1

ACC NR: AR6035112 (N) SOURCE CODE: UR/0137/66/000/008/I059/I059

AUTHOR: Seleznev, A. G.; Gavranek, V. V.; Shumakov, Yu. I.

TITLE: Hydroabrasive resistance of transition grade 10Kh15N4G4D2L stainless steel

SOURCE: Ref. zh. Metallurgiya, Abs. 8I402

REF SOURCE: Sb. Kavitas. i gidroabrazivn. stoykost' met. v gidroturbinakh. M., Mashinostroyeniye, 1965, 111-114

TOPIC TAGS: steel, stainless steel, high temperature steel, martensite steel, abrasive, abrasion resistant steel/10Kh15N4G4D2L stainless steel

ABSTRACT: The steel under investigation was of the following composition (in %): C, 0.07; Cr, 15; Ni, 4.2; Mn, 4; Cu, 2; W, 0.3. In cast state $H_B = 163$ and there is no ferrite in the structure. The machining conditions rate for 10Kh15N4G4D2L steel were established: normalizing after casting is made at 900—950°C (for producing the maximum amount of martensite); high temperature tempering, at 700°C with subsequent aging at 450°C for 1.5—2 hours (σ_{0.05}, 96.0

Card 1/2

UDC: 669.15.018.8

ACC NR: AR6035112

kg/mm²; σ_s, 59.4 kg/mm²; δ, 26%; ψ, 45%; a_k, 9.3 kgm/cm²); the other variant calls for sub-zero treatment after normalizing and subsequent aging at 450C for 2 hours (σ_s, 107 kg/mm²; σ_u, 82.1 kg/mm²; δ, 12.4%; ψ, 29.2%; a_k 9.1 kgm/cm²). The hydroabrasive stability of the steel is higher after sub-zero treatment than with high-temperature tempering. Good wear resistant steel can be produced even at 340 H_B exceeding the wear resistance of 1Kh18Kh9T and 1Kh18N3G3D2L steels. V. Olenicheva. [Translation of abstract]

[AM]

SUB CODE: 13/

Card 2/2

ACC NR: AR6035035

SOURCE CODE: UR/0277/66/000/008/0008/0008

AUTHOR: Volobuyev, I. V.; Shumakov, Yu. I.

TITLE: Effect of niobium on the susceptibility of crack formation in 2Kh13L steel

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley
mashin. Gidroprivod, Abs. 8. 48. 62

REF SOURCE: Vestn. Khar'kovsk. politekhn. in-ta, no. 5(53), 1965, 50-55

TOPIC TAGS: niobium addition, crack formation

ABSTRACT: The effect of Nb (0.08—0.13%) additions on the susceptibility of 2Kh13L steel to crack formation has been investigated with the use of multiple quenching. Quenching at 1050C ensures the best combination of mechanical and corrosion-resistance properties. The addition of 0.08—0.12% Nb to the steel pulverizes the grain, thereby decreasing the susceptibility to crack formation. Orig. art. has: 7 figures. Bibliography of 5 titles. [Translation of abstract] [NT]

SUB CODE: 11/

Card 1/1

UDC: 669.14.018:539.4:669.293

ACC NR: AR6029507

SOURCE CODE: UR/0137/66/000/006/I054/I054

AUTHOR: Volobuyev, I. V.; Shumakov, Yu. I.

TITLE: Effect of niobium on the tendency to crack formation in 2Kh13L steel

SOURCE: Ref. zh. Metallurgiya, Abs. 6I367

REF SOURCE: Vestn. Khar'kovsk. politekhn. in-ta, no. 5(53), 1965, 50-55

TOPIC TAGS: niobium, crack propagation, corrosion resistant steel / 2Kh13L steel

TRANSLATION: A multiple, repeated quenching method was used in the investigation. The composition of the steels investigated was (wt %): C--0.17-0.37, Cr--12.50-14.36, Nb--0.07-0.03, Mn--0.30-0.35, Ni--0.80-0.86, S--0.020-0.022, and P--0.022-0.023. After quenching, the samples were heated to temperatures of 900-1200°C for 20 min. Before quenching, the samples were subjected to single or double annealing at 700°C. The greatest tendency to crack formation was found in steels subjected to single annealing after quenching from 1050-1150°C, while the lowest was for those quenched from 950°C. A quench temperature of 1050°C provided the best combination of mechanical and anti-corrosive properties; however, this temperature was least satisfactory in regard to crack formation. The cracks propagated principally along the grain boundaries of recrystallized austenite. In samples exposed to a few cycles of reversed quenching, there was a thin network of excess σ-phase along the grain boundaries. In quantities

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Card 1/2

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of 0.08-0.12%, Nb decreased the tendency of 2Kh13L steel toward crack formation.
V. Olenicheva.

SUB CODE: 11,13

Card 2/2

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